

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Herman Joris CASIER, et al.

Attorney Docket No. Q67690

Appln. No.: Unknown

Group Art Unit: Unknown

Confirmation No.: Unknown

Examiner: Unknown

Filed: December 27, 2001

For: xDSL CLASS C-AB DRIVER

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

**Please enter the following amended claims:**

3. (Amended)Line driver as in claim 1, characterised in that the proportion of the first output signal in the total output signal is at least 95%.

4. (Amended)Line driver as in claim 1, characterised in that the line driver comprises a digital to analogue converter (15) arranged to convert the input signal to an analogue input signal and that said analogue input signal is fed to the second input terminal (6) of the linear amplifier (5).

PRELIMINARY AMENDMENT  
Attorney Docket No. Q67690

5. (Amended)Line driver as in claim 1, characterised in that the linear amplifier (5) is selected from the group consisting of class A and class A/B amplifiers.

6. (Amended)Line driver as in claim 1, characterised in that the non-linear amplifier (3) is selected from the group consisting of switching mode amplifiers, clipping amplifiers, class B, G or K amplifiers and pulse width modulation amplifiers.

7. (Amended)Line driver as in claim 1, characterised in that the combining means comprise a hybrid (9).

8. (Amended)Line driver as in claim 1, characterised in that the input signal is generated by a DMT (2).

9. (Amended)Line driver as in claim 1, characterised in that it further comprises an active back termination circuit.

12. (Amended)Analogue-digital combined amplifier as in claim 10, characterised in that the non-linear amplifier (3) is selected from the group consisting of switching mode amplifiers, clipping amplifiers, class B, G or K amplifiers and pulse width modulation amplifiers.

13. (Amended)A method for amplifying an input signal, comprising the following steps:

- providing a line driver (1) such as in claim 1,
- feeding said line driver (1) at the input terminal (11) with said input signal,
- a first amplifying step, comprising amplifying said input signal with the non-linear amplifier (3) and providing the first output signal at the first output terminal (13),
- a second amplifying step, performed in parallel with said first amplifying step and comprising a digital to analogue conversion of the input signal to an analogue input signal, and comparing said analogue input signal with said first output signal using an analogue linear amplifier (5), providing a second output signal at the second output terminal (10), and a combination step comprising combining said first output signal with said second output signal to obtain a total output signal to an output line (7).

15. (Amended)The method as in claim 13, characterised in that the input signal is generated by a DMT (2).

PRELIMINARY AMENDMENT  
Attorney Docket No. Q67690

REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian W. Hannon", written over a horizontal line.

Brian W. Hannon  
Registration No. 32,778  
for David J. Cushing  
Registration No. 28,703

SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3213  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

Date: December 27, 2001

**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

3.     ~~(Amended)~~Line driver as in ~~claim 1 or 2~~claim 1, characterised in that the proportion of the first output signal in the total output signal is at least 95%.
  
4.     ~~(Amended)~~Line driver as in ~~any of the claims 1 to 3~~claim 1, characterised in that the line driver comprises a digital to analogue converter (15) arranged to convert the input signal to an analogue input signal and that said analogue input signal is fed to the second input terminal (6) of the linear amplifier (5).
  
5.     ~~(Amended)~~Line driver as in ~~any of the claims 1 to 4~~claim 1, characterised in that the linear amplifier (5) is selected from the group consisting of class A and class A/B amplifiers.
  
6.     ~~(Amended)~~Line driver as in ~~any of the claims 1 to 5~~claim 1, characterised in that the non-linear amplifier (3) is selected from the group consisting of switching mode amplifiers, clipping amplifiers, class B, G or K amplifiers and pulse width modulation amplifiers.
  
7.     ~~(Amended)~~Line driver as in ~~any of the claims 1 to 6~~claim 1, characterised in that the combining means comprise a hybrid (9).

8. (Amended)Line driver as in ~~any of the claims 1 to 7~~claim 1, characterised in that the input signal is generated by a DMT (2).

9. (Amended)Line driver as in ~~any of the claims 1 to 8~~claim 1, characterised in that it further comprises an active back termination circuit.

12. (Amended)Analogue-digital combined amplifier as in ~~claim 10 or 11~~claim 10, characterised in that the non-linear amplifier (3) is selected from the group consisting of switching mode amplifiers, clipping amplifiers, class B, G or K amplifiers and pulse width modulation amplifiers.

13. (Amended)A method for amplifying an input signal, comprising the following steps:

- providing a line driver (1) such as in ~~claim 1 or 2~~claim 1,
- feeding said line driver (1) at the input terminal (11) with said input signal,
- a first amplifying step, comprising amplifying said input signal with the non-linear amplifier (3) and providing the first output signal at the first output terminal (13),
- a second amplifying step, performed in parallel with said first amplifying step and comprising a digital to analogue conversion of the input signal to an analogue input signal, and comparing said analogue input signal with said first output signal using an analogue linear amplifier (5), providing a second output signal at the second output terminal (10), and

PRELIMINARY AMENDMENT  
Attorney Docket No. Q67690

a combination step comprising combining said first output signal with said second output signal to obtain a total output signal to an output line (7).

15. (Amended) The method as in ~~claim 13 or 14~~ claim 13, characterised in that the input signal is generated by a DMT (2).